11-2300-364-15-1

DEPARTMENT OF THE ARMY TECHNICAL MANUAL

Operator, Organizational, DS, GS, and Depot Maintenance Manual INSTRUCTIONS FOR INSTALLING RADIO SET AN/VRC-46, AN/VRC-53, OR AN/GRC-125, AND INTERCOMMUNICATION SET AN/VIC-1(V) INSTALLATION UNITS, IN ARMORED VEHICLE LAUNCHER BRIDGE (M48A2 HULL)

Headquarters, Department of the Army, Washington, D. C.
6 September 1966

		Paragraph	Page
CHAPTER 1.	INTRODUCTION		
	Scope	1-1	3
	Index of publications	1-2	3
	Forms and records	1-3	3
CHAPTER 2.	INSTALLATION		
SECTION I.	Service upon receipt of equipment		
	Unpacking	2-1	5
	Checking unpacked equipment	2-2	5
II.	Equipment installation		
	Tools required for installation	2-3	5
	Installation instructions	2-4	5
APPENDIX.	REFERENCES		9

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CHAPTER 1

INTRODUCTION

1-1. Scope

This manual provides instructions for mounting the installation units (FSN 5820-082-4046 and FSN 5830-082-4047) that permit mounting Radio Set AN/VRC-46, AN/VRC-53, or AN/GRC-125, and Intercommunication Set AN/VIC-1(V) in Armored Vehicle Launcher Bridge (M48A2 Hull).

1-2. Index of Publications

Refer to the latest issue of DA Pam 310-4 to determine whether they are new editions, changes, or additional publications pertaining to this equipment. DA Pam 310-4 is an index of current technical manuals, technical bulletins, supply manuals, supply bulletins, lubrication orders, and modification work orders available through publications supply channels. The index lists the individual parts (-10, -20, -35P, etc) and the latest changes to and revisions of each publication.

1-3. Forms and Records

a. Reports of Maintenance and Unsatisfactory Equipment. Use equipment forms and records in accordance with instructions in TM 38-750.

b. Report of Damaged or Improper Shipment. Fill out and forward DD Form 6 (Report of Damaged or Improper Shipment) as prescribed in AR 700-58 (Army), NAVSANDA Publication 378 (Navy), and AFR 71-4 (Air Force).

c. Reporting of Equipment Manual Improvements. The direct reporting by the individual user of errors, omissions, and recommendations for improving this manual is authorized and encouraged. DA Form 2028 (Recommended Changes to DA Publications) will be used for reporting these improvement recommendations. This form will be completed using pencil, pen, or typewriter and forwarded direct to Commanding General, U. S. Army Electronics Command, ATTN: AMSEL-MR-NMP-AD, Fort Monmouth, N. J., 07703.

CHAPTER 2

INSTALLATION

Section I. SERVICE UPON RECEIPT OF EQUIPMENT

2-1. Unpacking

Move the packing boxes close to the location where the installation is to take place and unpack the parts of the installation unit. Be careful not to lose any of the parts.

2-2. Checking Unpacked Equipment

a. Inspect the equipment for damage incurred during shipment. If the equipment has been damaged, report the damage on DD Form 6 (para 1-3).

b. See that the equipment is complete as listed in the packing slip. If a packing slip is not available, the completeness of the installation unit can be determined by comparing the parts received with the items listed on the installation drawings (Figs. 2-4 and fig. 2-5). Report all discrepancies in accordance with TM 38-750. Shortage of a minor assembly or part that does not affect proper installation or functioning of the equipment should not prevent the installation units from being installed.

c. When vehicles with radio sets are to be turned in or transferred, communication equipment will be removed and reinstalled in new replacement vehicles. Additional items which are required to complete installations should be requisitioned as individual items. To determine the Federal stock number of authorized items in the installation unit, refer to SB 11-131.

Section II. EQUIPMENT INSTALLATION

2-3. Tools Required for Installation

The tools required for installation of Radio Set AN/VRC-46 and Intercommunication Set AN/VIC-1(V) in Armored Vehicle Launcher Bridge (M48A2 Hull) are a part of Tool Kit, Radar and Radio Repairman TK-87/U and Tool Kit, Supplementary, Radar and Radio Repair TK-88/U. The following additional items are needed:

a. 1 electric drill (3/8 inch).

b. 1 set of drill bits (1/16 inch to 3/8 inch).

2-4. Installation Instructions

a. To accomplish the installation, follow the instructions given below on those shown on figures 2-1 through 2-5.

Caution: **Vehicle master control switch should be at OFF.**

(1) Identify all major parts and components in Radio Set AN/VRC-46 and Intercommunication Set AN/VIC-1 (V) in basic and installation units with the items as shown on figure 2-5.

(2) Assemble and wire power plug and accessory assembly to the CX-4720/VRC (fig. 2-5).

(3) Refer to cording detail (fig. 2-5) to determine how the various components connect into the complete communication system. For drilling and welding, refer to figure 2-3.

(4) Secure equipment in place (fig. 2-5).

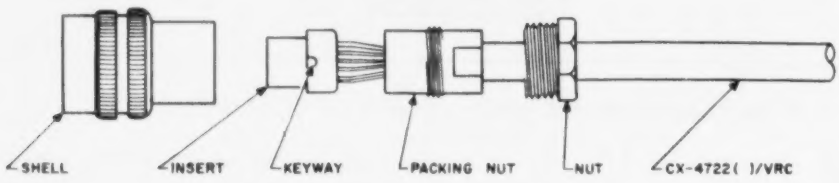
(5) Secure the cable assemblies in place by fastening the cable clamps to the tapping pads provided in the vehicle. Engage all connectors in their proper receptacles.

b. The following additional information is provided:

(1) To drill the correct size holes for the sheet metal screws, select a drill bit that is slightly smaller in diameter than the screw.

(2) When the installation is complete, check the tightness of all bolts and screws.

(3) Read the technical manuals supplied with the equipment before operating the communication system.



NOTES:

1. DISASSEMBLY PROCEDURE: LOOSEN NUT AND PACKING NUT. PULL INSERT FROM SHELL.

2. ASSEMBLY PROCEDURE: ALIGN KEYWAY TO SHELL PROPERLY AND PUSH INSERT INTO SHELL. TIGHTEN PACKING NUT AND NUT.

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Figure 2-1. Cable Assembly, Special Purpose, Electrical CX-4722/VRC connector disassembly.

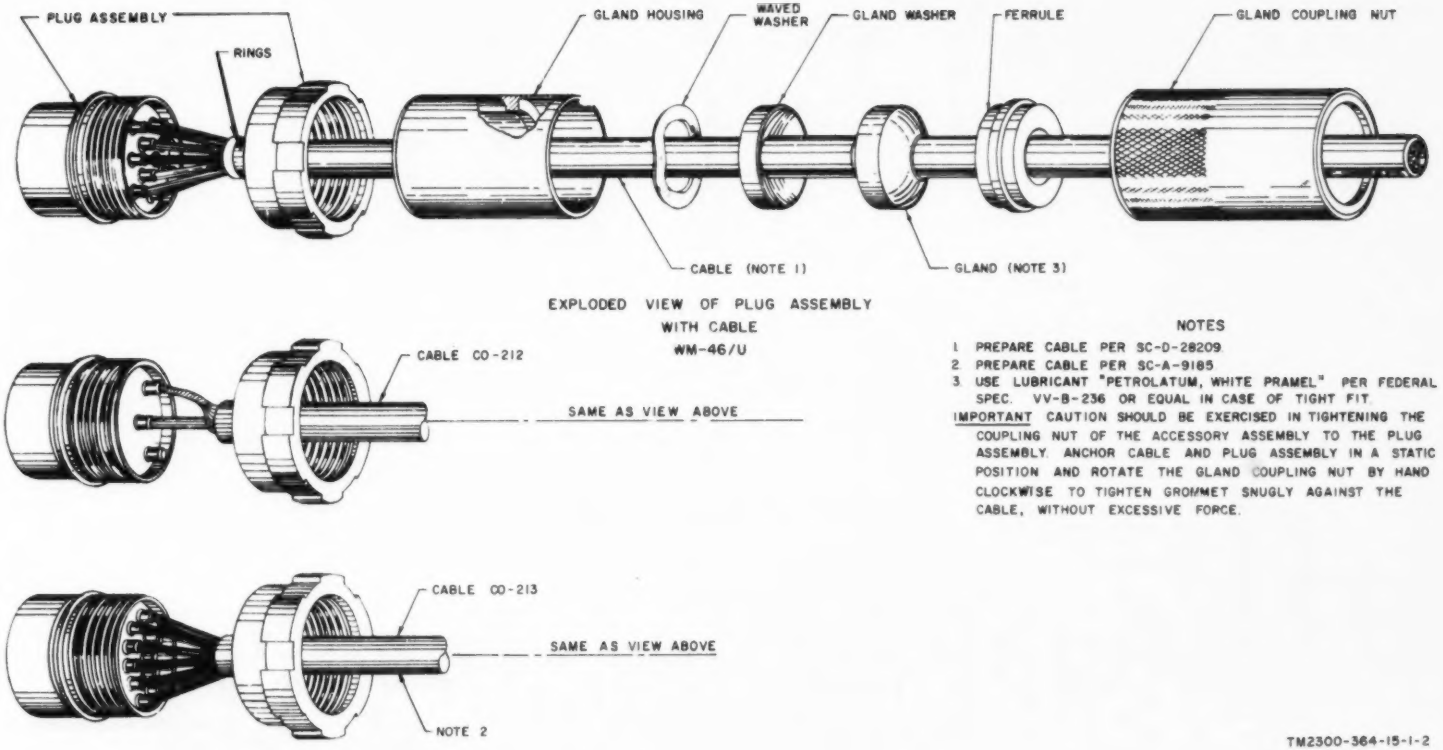
PLUG ASSEMBLY
RINGS
GLAND HOUSING
WAVED WASHER
GLAND WASHER
FERRULE
GLAND COUPLING NUT
CABLE (NOTE 1)
GLAND (NOTE 3)
EXPLODED VIEW OF PLUG ASSEMBLY WITH CABLE WM-46/U
CABLE CO-212
SAME AS VIEW ABOVE
CABLE CO-213
SAME AS VIEW ABOVE
NOTE 2
NOTES
1. PREPARE CABLE PER SC-D-28209.
2. PREPARE CABLE PER SC-A-9185.
3. USE LUBRICANT "PETROLATUM, WHITE PRAMEL" PER FEDERAL SPEC. VV-B-236 OR EQUAL IN CASE OF TIGHT FIT.
IMPORTANT CAUTION SHOULD BE EXERCISED IN TIGHTENING THE COUPLING NUT OF THE ACCESSORY ASSEMBLY TO THE PLUG ASSEMBLY. ANCHOR CABLE AND PLUG ASSEMBLY IN A STATIC POSITION AND ROTATE THE GLAND COUPLING NUT BY HAND CLOCKWISE TO TIGHTEN GROMMET SNUGLY AGAINST THE CABLE, WITHOUT EXCESSIVE FORCE.
TM2300-364-15-1-2

Figure 2-2. Assembly of waterproof vehicle terminal box plugs.

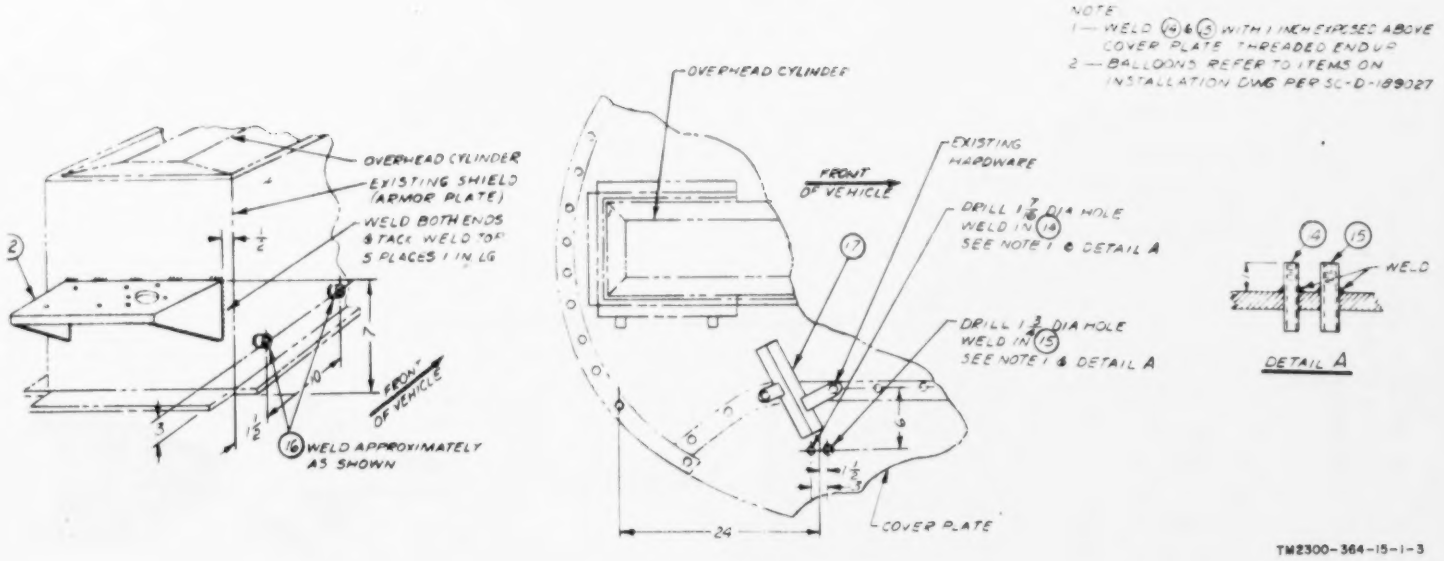
OVERHEAD CYLINDER
EXISTING SHIELD (ARMOR PLATE)
WELD BOTH ENDS & TACK WELD TOP 5 PLACES 1 IN LG
FRONT OF VEHICLE
16 WELD APPROXIMATELY AS SHOWN
NOTE
1 — WELD 14 & 15 WITH 1 INCH EXPOSED ABOVE COVER PLATE THREADED END UP
2 — BALLOONS REFER TO ITEMS ON INSTALLATION DWG PER SC-D-189027
OVERHEAD CYLINDER
EXISTING HARDWARE
FRONT OF VEHICLE
DRILL 1 7/16 DIA HOLE WELD IN 14 SEE NOTE 1 & DETAIL A
DRILL 1 3/4 DIA HOLE WELD IN 15 SEE NOTE 1 & DETAIL A
17
24
COVER PLATE
14
15
WELD
DETAIL A
TM2300-364-15-1-3

Figure 2–3. Drilling and welding.

APPENDIX

REFERENCES

DA Pam 310–4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, Lubrication Orders, and Modification Work Orders.
SB 11–131	Vehicular Radio Sets and Authorized Installations.
SB 38–100	Preservation, Packaging, and Packing Materials, Supplies, and Equipment Used by the Army.
TB SIG 364	Field Instructions for Painting and Preserving Electronics Command Equipment.
TM 11–5820–401–10	Operator's Manual: Radio Sets AN/VRC–12, and AN/VRC–43, –44, –45, –46, –47, –48, and –49.
TM 11–5820–401–20	Organizational Maintenance Manual (Including Repair Parts and Special Tool Lists): Radio Sets AN/VRC–12, and AN/VRC–43, –44, –45, –46, –47, –48, and –49.
TM 11–5820–401–35	Field and Depot Maintenance Manual: Radio Set AN/VRC–12 and AN/VRC–43, –44, –45, –46, –47, –48, and –49.
TM 11–5820–498–10	Operator's Manual: Radio Sets AN/VRC–53 and AN/GRC–125 and Amplifier-Power Supply Group OA–3633/GRC.
TM 11–5820–498–20	Organizational Maintenance Manual: Radio Sets AN/VRC–53 and AN/GRC–125 and Amplifier-Power Supply Group OA–3633/GRC.
TM 11–5820–498–35	DS, GS, and Depot Maintenance Manual: Radio Sets AN/VRC–53 and AN/GRC–125 and Amplifier Power Supply Group OA–3633/GRC
TM 38–750	Army Equipment Record Procedures.

By Order of the Secretary of the Army:

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Bde (2)
Regt/Gp/BG (2)
Bn (2)
Co/Btry (2)
Det/Team (2)
1st GM Bde (5)
1st FA Bde (5)
9th USASA Fld Sta (5)
12th USASA Fld Sta (5)
Svc Colleges (2)
USASCS (30)
USMA (5)
USAQMS (5)
USAMPS (5)
MFSS (5)
USATSCH (5)
USAARMS (30)
USASESCS (60)
USAAMS (30)
USAIS (30)
USASTC (2)
USATC Armor (2)
USATC Engr (2)
USATC Inf (2)
USATC FA (5)
USAATC (5)
WRAMC (1)
Army Pic Cen (2)
USACDCEC (10)
Instls (2) except
  Ft Monmouth (70)
  Ft Gordon (10)
  Ft Huachuca (10)
  Ft Carson (25)
  Ft Knox (12)
WSMR (5)
DPG (5)
USAEPG (5)
GENDEP (2)
Sig Sec GENDEP (5)
Sig Dep (12)
A Dep (2) except
  LBAD (14)
  SAAD (30)
  TOAD (14)
  LEAD (10)
  SHAD (3)
  NAAD (5)
  SVAD (5)
  CHAD (3)
  ATAD (10)
Sig FLDMS (2)
AMS (1)
USAERDAA (2)
USAERDAW (13)
USACRREL (2)
Edgewood Arsenal (5)
USARSG (5)

NG: None.

USAR: None.

For explanation of abbreviations used, see AR 320-50.

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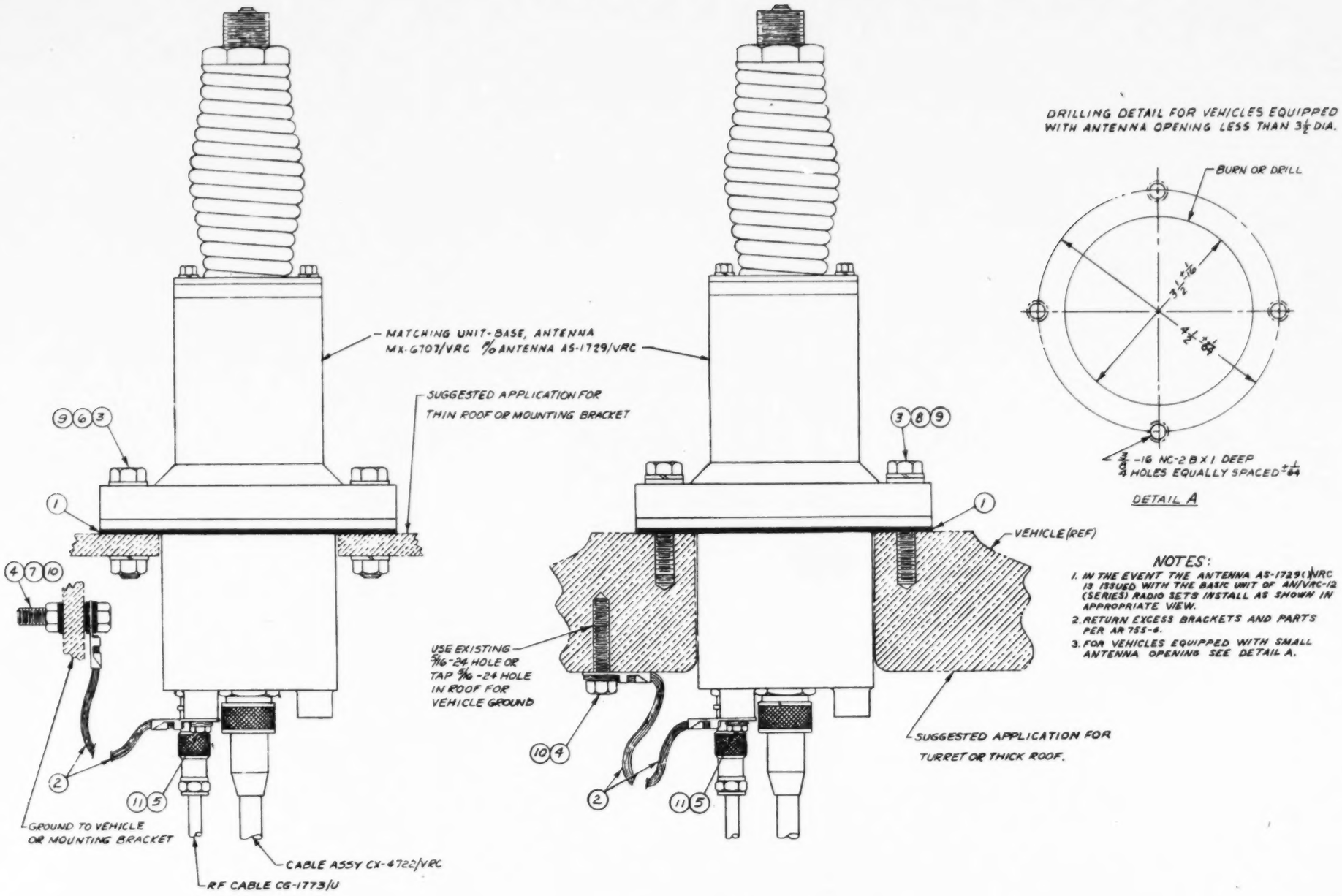


DRILLING DETAIL FOR VEHICLES EQUIPPED WITH ANTENNA OPENING LESS THAN 3½ DIA.

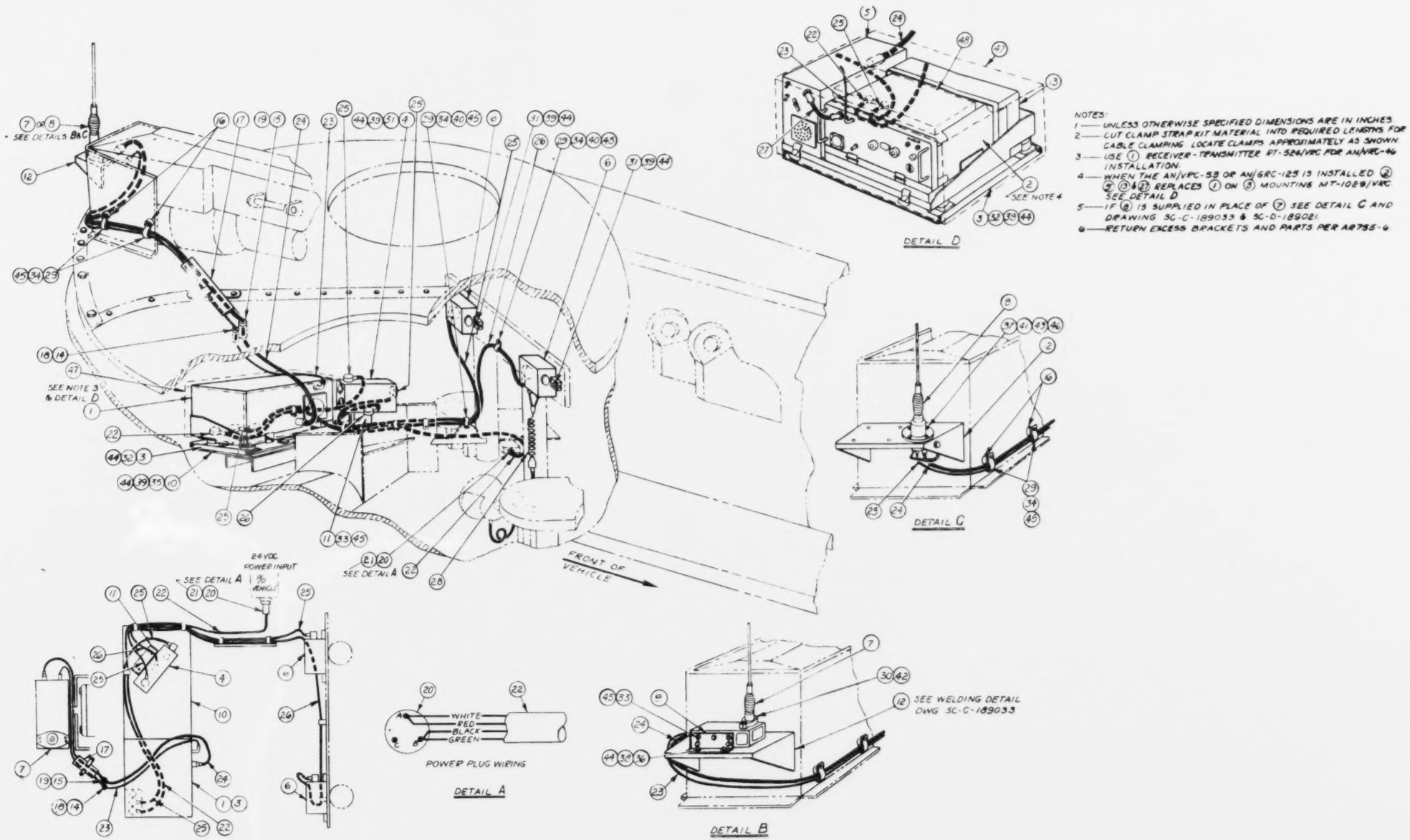
DETAIL A

NOTES:

1. IN THE EVENT THE ANTENNA AS-1729( )/VRC IS ISSUED WITH THE BASIC UNIT OF AN/VRC-12 (SERIES) RADIO SETS INSTALL AS SHOWN IN APPROPRIATE VIEW.
2. RETURN EXCESS BRACKETS AND PARTS PER AR 755-6.
3. FOR VEHICLES EQUIPPED WITH SMALL ANTENNA OPENING SEE DETAIL A.

1 Gasket, rubber
2 Ground strap (6 in. lg)
3 Hex hd cap scr 3/8—16 x 1–3/4 lg (4)
4 Hex hd cap scr 5/16—24 x 1–1/2 lg
5 Hex hd cap scr #10—32 x 1/2 lg
6 Hex nut, plain 3/8—16 (4)
7 Hex nut, plain 5/16—24
8 Washer, split 3/8 13/32 ID (4)
9 Washer, flat 13/32 ID—13/16 OD (4)
10 Lockwasher 5/16 IET (3)
11 Lockwasher #10 IET (2)

Figure 2–4. Drilling detail for Antenna AS–1729( )/VRG.



NOTES:
1 — UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES.
2 — CUT CLAMP STRAP KIT MATERIAL INTO REQUIRED LENGTHS FOR CABLE CLAMPING. LOCATE CLAMPS APPROXIMATELY AS SHOWN.
3 — USE (1) RECEIVER-TRANSMITTER RT-524/VRC FOR AN/VRC-46 INSTALLATION.
4 — WHEN THE AN/VRC-53 OR AN/GRC-125 IS INSTALLED (2) (3) (6) (27) REPLACES (1) ON (3) MOUNTING MT-1028/VRC SEE DETAIL D.
5 — IF (8) IS SUPPLIED IN PLACE OF (7) SEE DETAIL C AND DRAWING SC-C-189033 & SC-D-189021.
6 — RETURN EXCESS BRACKETS AND PARTS PER AR 755-6.

TM2300-364-15-1-5

Figure 2-5. Installation of Radio Set AN/VRC-46, AN/VRC-53, or AN/GRC-125, and Intercommunication Set AN/VIC-1(V) in Armored Vehicle Launcher Bridge (M48A2 Hull).

1 Receiver-Transmitter, Radio RT-524/VRC (note 3)
2 Receiver-Transmitter RT-505/PRC-25 (note 4)
3 Mounting MT-1029/VRC
4 Amplifier, Audio Frequency AM-1780/VRC
5 Amplifier, Power Supply AM-2060/VRC (note 4)
6 Control, Intercommunication Set C-2298/VRC (2)
7 Antenna AT-912/VRC (note 5)
8 Antenna AS-1729( )/VRC (note 5)
9 Angle bracket assy (SC-C-48605) (2)
10 Shelf assy (SC-D-48613)
11 Bracket assy (SC-D-48664)
12 Bracket (SC-D-189028)
13 Battery Box CY-2562/PRC-25 (note 4)
14 Adapter (SC-B-189031)
15 Adapter (SC-B-189030)
16 Spacer (SC-A-27844) (2)
17 Guard (SC-C-189029)
18 Connector (waterproof) assy group (SC-C-28203)
19 Connector (waterproof) assy (SC-C-49627)
20 Plug assy
21 Accessory assy
22 Cable Assembly, Power, Electrical CX-4720/VRC (10 ft lg)
23 Cable RF CG-1773/U (8 ft lg)
24 Cable Assembly, Special Purpose, Electrical CX-4722/VRC (8 ft lg)
25 Cable Assembly, Special Purpose, Electrical CX-4723/VRC (5 ft lg) (2)
26 Cable Assembly, Special Purpose CX-4723/VRC (5 ft lg)
27 Cable Assembly, Special Purpose CX-4655/U (note 4)
28 Extension audio cable assy
29 Clamp strap kit per PPL #914 (note 2) (4)
30 Hex hd cap scr 5/16—24 x 2-1/4 lg P/O (7) (4)
31 Slotted hex hd cap scr 5/16—24 x 1 lg P/O (4) & (6) (8)
32 Slotted hex hd cap scr 5/16—24 x 3/4 lg P/O (3) (5)
33 Slotted hex hd cap scr 1/4—28 x 5/8 lg P/O (9) & (11) (18)
34 Hex hd cap scr 1/4—28 x 1/2 lg P/O (29) (6)
35 Hex hd cap scr 5/16—24 x 5/8 lg P/O (10) (8)
36 Hex hd cap scr 5/16—18 x 5/8 lg P/O (9) (4)
37 Hex hd cap scr 3/8—16 x 1-3/4 lg P/O (8) (4)
38 Hex nut, plain 5/16—18 P/O (9) (4)
39 Hex nut, plain 5/16—24 P/O (3), (4), (6), & (10) (21)
40 Hex nut, plain 1/4—28 P/O (11) & (29) (4)
41 Hex nut, plain 3/8—16 P/O (8) (4)
42 Lockwasher, split 5/16 P/O (7) (4)
43 Lockwasher, split 3/8 P/O (8) (4)
44 Lockwasher, 5/16 IET P/O (3), (4), (6), (9), & (10) (38)
45 Lockwasher, 1/4 IET P/O (9), (11), & (29) (26)
46 Washer, flat 3/8 P/O (8) (4)
47 Cover CW-653/VRC (SC-F-49636)
48 Pad (u/w CW-653/VRC) (SC-B-49745)

PIN: 016045-000